

REMARKS

Claims 1-15 and 39-42 are pending in this application.

Rejection of Claims 1-15 and 39-42 under 35 U.S.C. §112, First Paragraph

The Examiner has rejected claims 1-15 and 39-42 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The Examiner indicates that she was unable to find any reference in this application to data being daily. We call the Examiner's attention to claim 41 of the original application, which specifies use of daily or more frequent data. The originally filed claims are part of the specification. Reference to "day by day" data is also found on page 4, lines 23 and 31-32 of the application. Claiming use of daily data and referring to day by day data is sufficient to satisfy the written description requirement, especially in light of these inventors' other patent applications which specify daily or more frequent data. A person reviewing these inventors' record and this application in particular would have no doubt that they were in possession of the claimed invention at the time the application was filed.

Withdrawal of the §112, First Paragraph rejection is respectfully requested.

Rejection of Claims 1-15 and 39-42 under 35 U.S.C. §112, Second Paragraph

The Examiner has rejected claims 1-15 and 39-42 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

We appreciate the Examiner's effort to point out that this application describes rescaling based on actual sales experience with both the cloned good and the other, reference good. Rescaling based on experience with the cloned good is described on page 2, lines 9-16 of the application. Rescaling based on experience with the reference good is described elsewhere. The claims have been amended to refer to actual experience with sales of the cloned good.

Withdrawal of the §112, Second Paragraph rejection is respectfully requested.

Rejection of Claims 1, 2 and 8-15 under 35 U.S.C. §102(e)

The Examiner has rejected claims 1, 2 and 8-15 under 35 U.S.C. §102(e) as being anticipated by Beyer et al. (US 6,978,249).

Claim 1

Claim 1, as amended, includes the limitations:

A computer implemented method of supplying a sales history for a good lacking a sales history, including:

cloning daily sales history data for sales of a cloned good at a plurality of selling locations from actual daily sales history data of an other good sold at the plurality of selling locations;

scaling the cloned daily sales history data upward or downward based on anticipated sales of the cloned good;

tracking actual sales of the cloned good for an interval; and

rescaling the cloned daily sales history data based on actual sales of the cloned good during the interval.

These limitations are not found in Beyer et al.

Beyer et al., assigned to HP, concerns life-cycle demand forecasting, as a way of avoiding excessive inventory accumulation. A new computer or new accessory that has either a short life cycle or poor market reception is at risk of accumulating manufacturing inventory that will never ship to retail locations. Beyer, col. 1, lines 15-50. Because the planning horizon that Beyer addresses is life-cycle demand for manufacturing, Beyer relies on normalizing, averaging and standardizing demand – “normaliz*” appears 57 times in Beyer. See, e.g., FIG. 1, ref. 22-23; FIG. 3; FIG. 5, ref. 81 & 83; col. 2, line 61. The combination of normalizing and averaging is a common limitation of Beyer’s claims. While Beyer cares about the life-cycle of an individual good, it teaches nothing about day by day inventory demands at a retail level. The word “retail” does not even appear in Beyer.

Beyer does not anticipate the steps above. It does create a cloned sales history for goods at particular selling (e.g., retail) locations, because it is focused on life-cycle sales projections for manufacturing demand. It does not scale a cloned daily sales history for individual selling (retail) locations, because it does not address retail sales. It does not rescale cloned daily sales history data, instead it normalizes and averages the data.

The first passage on which the Examiner relies teaches away from creating cloned daily sales history data, more than suggesting it. The passage in column 1 is vague about the type of data hypothetically proposed to be used, referring to demand

for products as a whole, rather than the history of sales at specific selling locations. At lines 35-40, the reference describes many problems with potentially using historical demand data of similar products. This is what it means to teach away.

The passage in column 2 describes the demand profile extractor that leads to production of a normalized and averaged lifecycle demand forecast curve, rather than a cloned daily sales history. The passage in column 3 is general in the production to the application which does not include any of the claimed details.

The two passages in column 4 first summarize how a new product can be described and the system can automatically select similar past products. This has nothing to do with claim one. The passages next described the extraction of historical sales data, without attributing that data to any sales location and without any mention of granularity. The extracted sales data is used to produce a cumulative future demand profile in the form of a demand curve, not cloned daily sales histories for a plurality of sales locations. A life cycle demand predictor is described, which does not anticipate any element of the claim. In summary, the passages in column 4 are not relevant to the claimed limitations.

Another passage from column 4, lines 63-66, cited against the scaling step, reveals detail about the Beyer et al. process that plainly contrasts it with the claim language.

Our claims point an entirely different direction than Beyer: Beyer points to a single life-cycle demand for manufacturing, derived using normalized and averaged statistics. Those with experience in manufacturing inventory will recognize the importance of smoothing at the manufacturing level, because of multi-level distribution that separates the manufacturer from the retail environment. Our claims point to cloning actual daily sales data, adjusted for factors that impact demand, but not normalized and averaged. We create cloned actual sales histories for particular goods at particular locations.

The Examiner's response to our position was to reassert her §112, first paragraph rejection: She argued that there is not sufficient written description for cloning daily sales from past daily sales history. This line of argument makes the §102 rejection dependent on the section §112 rejection; the Examiner chose not to address the claims as written. We have pointed out above that the original claim 41 and page four of the

application support the present claims. As falls the §112 rejection, so falls the §102 rejection, because the Examiner could not find the claimed limitations in Beyer.

The Examiner also argues that this claim does not relate to data for particular products at particular locations, because it refers to a plurality of locations. One of ordinary skill in the art would understand that this disclosure is premised on cloning actual sales history of particular goods at particular locations, rather than aggregated data by product or sales region. We consistently refer to actual sales data, rather than average sales data. We refer, at page 3 of the application, to specifying a comparable store, not a group of stores. We distinguish among impacts of causal events on a location-by-location basis on pages 2-3 of the application. When we refer to a plurality of locations, we expect the reader to understand that each location is handled individually and that there are many individually handled locations. One of skill in the art would read the claims this way, having read the specification. If the Examiner thinks that some other wording would express this more clearly, we would appreciate a telephonic interview and would entertain an Examiner's amendment, so that examination can advance more expeditiously.

Applicants respectfully submit that claim 1 is not anticipated by Beyer et al. and that the rejection should be withdrawn.

Claim 2

Claim 2 includes the limitations:

wherein the rescaling takes place after the interval without intervention of a user

These limitations are not found in Beyer et al., because Beyer's automatic rescaling is not as claimed: Beyer does not rescale cloned daily sales history data, the clone data being identified in the cloning step as data for a good at a plurality of selling locations.

In response to our position, the Examiner again makes her §102 rejection dependent on her §112, first paragraph argument, which fails because one of ordinary skill would understand from claim 41 and from page 4 of the application that using daily or more frequent data was an approach within the Applicants' possession at the time the application was filed.

The Examiner also argues that handling data for a plurality of locations implies aggregating the locations. There is no mention in this application of aggregating or

averaging across locations that would support the Examiner's strained reading of the claims. The claims should be read in the context of the specification, as one of ordinary skill in the art would understand them. Again, if the Examiner would find other wording to be even more clear than the present claim wording, we would invite her to suggest wording that would seem clear to her.

Applicants respectfully submit that claim 2 is not anticipated by Beyer et al. and that the rejection should be withdrawn.

Claims 8 and 9

Claims 8 and 9 include the limitations:

wherein scaling the cloned daily sales history data includes modifying the cloned daily sales history data

The sense of modifying in this claim is modifying the data set, rather than producing another data set and retaining the unmodified cloned daily sales history data. These limitations are not found in Beyer et al., because Beyer et al. does not produce a persistent cloned daily sales history data, it produces only intermediate data for calculation of a monthly cumulative demand curve. There is no sense in which a persisted data set is modified and retained.

The Examiner argues that the cloned daily sales history data could be modified without persisting the modified data. However, that would make claims 8-9 coincident with claims 10, 11, 14 and 15, which is contrary to all rules of claim interpretation. The Examiner cannot reinterpret claims 8-9 to give them the same meaning as other claims that expressly call for storing a scaling factor, instead of modifying the data. Claim differentiation is a principle normally seen in litigation that informs us how one of ordinary skill in the art would read the claims; accordingly, claim differentiation should be given effect during examination, at least to prevent claims with clearly different wording from being interpreted to mean the same thing.

Even if only temporary modification of data were required by our claim wording, as the Examiner argues, Beyer does not temporarily modify cloned daily sales history data. Our claim is not for "calculat[ing] a posterior probability distribution for the total life-cycle demand" for the new product (Beyer, col. 5, lines 37-39), which is the teaching of Beyer on which the Examiner relies.

To the extent that the Examiner is arguing against examining the words of the claim, as written, our position is that the §102 rejection fails when the §112 rejection is withdrawn. Support for manipulating daily or more frequent actual sales data is found in the original specification.

Therefore, claims 8 and 9 are not anticipated by Beyer et al.

Claims 10, 11, 14 and 15

Claims 10, 11, 14 and 15 include the limitations:

wherein scaling the cloned daily sales history data includes storing a scaling factor to be applied to the cloned daily sales history data

wherein rescaling the cloned daily sales history data includes storing a scaling factor to be applied to the cloned daily sales history data

These limitations are not found in Beyer et al.

The cited passages in columns 4, 7, 8, 9 and 10 of Beyer reveal many details of normalization, averaging and extrapolation of future demand. The process described in column 7 involves creating a scaled cumulative demand function and applying linear interpolation to derive a continuous function on the interval [0, 1]. The creation of a continuous function is contrary to what we claim: scaling a cloned daily sales history by storing a scaling factor that applies to the discrete data.

We appreciate that the Examiner has difficulty understanding our position, from her summary, which isn't how we meant the preceding paragraph to be understood. The point is that Beyer's math is entirely different from what we claim, because Beyer is working in a different domain, a probability distribution domain, where different mathematical tools are used. The probability distribution domain is as distinct from our actual sales data domain as the time domain is distinct from the frequency domain in signal processing. If the Examiner still doesn't understand our position, perhaps a brief telephonic conference would advance prosecution.

Applicants respectfully submit that claims 10, 11, 14 and 15 are not anticipated by Beyer et al. and that the rejection should be withdrawn.

Claims 12 and 13

Claims 12 and 13 include limitations similar to those in claims 8 and 9.

Therefore, claims 12 and 13 are not anticipated by Beyer et al. for at least the same reasons that claims 1, 8 and 9 are not anticipated.

Applicants respectfully submit that claims 1, 2, 8-15 are not anticipated by Beyer et al.

Rejection of Claim 3 under 35 U.S.C. §103(a)

The Examiner has rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Beyer et al. (US 6,798,249) in view of Ando (US 6,032,125), a newly cited reference.

Claim 3 includes the limitations:

wherein the rescaling takes place repeatedly on a predetermined cycle beginning at the end of the interval, without intervention of a user

The Examiner acknowledges that Beyer et al. does not disclose rescaling repeatedly on a predetermined cycle. These limitations are not found in Beyer et al. in view of Ando.

First, neither Beyer et al. nor Ando teach rescaling *cloned daily sales history data*. Beyer et al. teach updating “the total life-cycle demand” using a Bayesian updating technique. Col. 10, line 9-10. Ando teaches rerunning the network training phase of implementing a neural network model. See, e.g., col. 5, lines 27-38. Neither of the references teach the underlying technique of rescaling cloned daily sales history data or any part of that limitation. Therefore, since the key limitation is not found in either reference, it cannot magically appear in the combination of references.

What the Examiner needs to justify combining is the teachings of the two references, their approaches as a whole, rather than a few isolated words here and there. As far as we can see, the Examiner is not proposing to combine Ando’s neural network teaching with Beyer’s normalized and averaged total life-cycle demand. When the Examiner ignores the thrust of Ando’s teachings, we don’t see the point of combining the references.

Therefore, claim 3 should be allowable over Beyer in view of Ando.

Rejection of Claims 4 and 5 under 35 U.S.C. §103(a)

The Examiner has rejected claims 4 and 5 under 35 U.S.C. §103(a) as being unpatentable over Beyer et al. (US 6,798,249) in view of Crosswhite (US 6,611,726).

Claims 4 and 5 should be allowable over Beyer et al. in view of Crosswhite for at least the same reasons as claim 1, from which they depend.

Rejection of Claims 6 and 7 under 35 U.S.C. §103(a)

The Examiner has rejected claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Beyer et al. (US 6,798,249), a single reference obviousness-type rejection.

Claims 6 and 7 include the limitations:

wherein cloning daily sales history data includes creating a [6] reference [or 7] pointer to the sales history data

These limitations are not found in Beyer.

First, we take issue with part of what the Examiner says about pointers and references. Of course, we do not claim to have invented indirect addressing. Use of pointers, base addresses and the like has been around for many years. But much of what the Examiner says about benefits of these addressing methods is misplaced. The Examiner says, “Both pointers and references have the known benefits of being able to manipulate references to data without actually having to modify the data itself. Further, pointers and references increase flexibility in where objects can be stored, how they are allocated, and how they are passed between areas of code, making the sharing of data between different code areas easier.” This just isn’t an accurate description of pointer or references to data. The Examiner seems to be confusing passing parameters by value with use of pointers. We respectfully request an Examiner’s declaration of anything that she proposes to be old or well known, beyond the simple fact that pointers have been around for many years. The purported advantages miscomprehend the use of these addressing schemes. Because the characteristics of pointers and references are misstated, the rationale for combining the references also must fail.

Second, Beyer does not clone daily sales history data. This is a flaw in the cited reference that the Examiner is working around by relying on §112 to avoid examining the words of the claims. When the actual words of the claims are compared to the Examiner’s rationale, it is clear that Beyer does not read on the words of the claims. Combining what is well-know about pointers with Beyer does not read on the words of the claims.

Therefore claims 6 and 7 should be allowable over Beyer.

Rejection of Claims 39 and 42 under 35 U.S.C. §103(a)

The Examiner has rejected claims 39 and 42 under 35 U.S.C. §103(a) as being unpatentable over Beyer et al. (US 6,798,249) in view of Singh et al. (US 7,080,026).

We urge the Examiner to look at the cited references for the “inventive frontier” that they define. By “inventive frontier” we mean the inferences and creative steps that the PTO and this Examiner have already determined were beyond what would be expected of a person of ordinary skill in the art at about the time this application was filed. *KSR*.

Both Beyer and Singh represent what the PTO acknowledged, by granting patents, was new and inventive at about the time this application was filed. Both patents published well after we filed this application. Only a constructive fiction could make them part of the level of “ordinary” skill in the art at the time of our filing. We point out below that Singh does not qualify as prior art, because the Examiner has not demonstrated that a provisional application provided appropriate support, a demonstration that we doubt can be made. As for Beyer, Beyer’s application was filed half a year before this application, but we previously disclosed to the Examiner public use of certain technology that predates Beyer and would provide a basis for swearing behind both references, making them unavailable as a basis for rejection. Under these circumstances, the references define an inventive frontier and level of creativity among inventors in the art that supports patentability, rather than undermining it.

Claim 39

Claim 39 includes the limitations:

A computer implemented method of supplying a sales history for a good lacking a sales history, including:

cloning daily or more frequent sales history data for sales of a cloned good at a plurality of selling locations from actual daily or more frequent sales history data of an other good sold at the plurality of selling locations;

scaling the cloned daily sales history data upward or downward based on anticipated sales of the cloned good;

tracking actual sales of the cloned good for an interval; and

comparing the actual sales of the cloned good to the sales history data for a set of candidate goods and evaluating whether the sales history of one or more of the candidate goods better matches said actual sales than the cloned daily sales history data of the cloned good.

These limitations are not found in Beyer in view of Singh.

Claim 39 should be allowable for at least the same reasons as claim 1, because the Examiner's rejection expressly depends on the validity of her rejection of claim 1.

Preliminarily, Singh was filed nine months after this application. The provisional application which might support an earlier priority date does not resemble the later-filed application on which the Examiner relies. We specifically request that the Examiner identify the parts of the provisional application that fully support Singh and afford it the benefit of an early filing date, because, by itself, does not qualify as a prior art reference. We remind the Examiner that the benefit of an early filing date depends on the provisional application satisfying the statutory standards for enablement and written description. 35 U.S.C. § 119(e)(1) ("disclosed in the manner provided by the first paragraph of section 112"); see, MPEP § 2163.04 (non-provisional must be supported as required by 35 U.S.C. 112, first paragraph). There is nothing automatic about finding support in a provisional application, unless it matches the later-filed application, which this provisional does not. *C.f.*, MPEP § 706.02 subparagraph (D) (issue of whether non-provisional is "fully supported" under 112, first paragraph by provisional, for affording applicant early priority date.)

Regarding enablement, we point out that "lumpy demand", which is illustrated in FIG. 1 of our application, generates an error condition in Singh's provisional application. See, IFW for 60/243,425, p. 312 of 347 ("Model Exceptions – Lumpy Demand".) This failing of Singh's technology belies enablement by the provisional application of what we claim.

Once the Examiner has decided whether she will argue that there is support in the provisional application for the teachings of Singh on which she relies, we will decide whether to swear behind the provisional application. (We previously disclosed dates of actual reduction to practice of various system features, so we are confident that we can swear back more than three months.)

The Examiner reads much into Singh that we cannot find there. She seems to argue that Singh et al reads on *comparing the actual sales of the cloned good to the sales history data for a set of candidate goods and evaluating whether the sales history of one or more of the candidate goods better matches said actual sales than the cloned daily sales history data of the cloned good*, though she does not actually say this. As we

read Singh, it asserts that it was new and inventive in late October, 2000, three months before filing of this application, to combine a variety of input streams and forecasting algorithms to select one that best fits a particular demand forecasting need. Nothing in Singh reads on *comparing the actual sales of the cloned good to the sales history data for a set of candidate goods and evaluating whether the sales history of one or more of the candidate goods better matches said actual sales than the cloned daily sales history data of the cloned good*. We teach and claim something that is more interesting and inventive than what Singh patented.

The Examiner makes a conclusory assertion on page 10 that, "It would have been obvious to one of ordinary skill in the art at the time of the invention to compare the new product with another product family and evaluate whether there is a good that better matches the new good in order to more accurately forecast for items in the future by ensuring that like products are grouped together." This assertion is not supported the discussion that proceeds the conclusion, directed to Beyer. Here are the passages that the Examiner cites from Beyer, col. 3, lines 39-56 and col. 7, lines 54-67.

As will be described in more detail below, the forecasting system **10** is an integrated forecasting system. It employs a combination of life-cycle profiling, time-series forecasting, and Bayesian updating techniques to produce a demand forecast for each period of the life of a yet-to-be-introduced new product with a short life-cycle. The forecasting system **10** generates the new product forecast based on the assumption that different products of the same product family share certain characteristics in their life-cycles, although each individual product has its own life-cycle demand curve. As one can observe from historical data, although even very similar products can have significantly different life-cycle curves in terms of demand and length, their monthly demand over the life-cycle often follows a similar shape if the life-cycle length and cumulative demand are normalized for comparison.

The forecast by the forecasting system **10** is done with the only human intervention of selecting the similar products of the new product. The user interaction or intervention with the forecasting system **10** is conducted through a user

The normalization of each of the cumulative demand profiles of the similar products allows the average profile determination module **23** to generate the demand profile of the new product based on the normalized or standardized cumulative demand profiles of the similar products. As described above, the cumulative demand profiles of different products of the same product family or group often follow a similar shape if the life-cycle length and cumulative demand are normalized for comparison. This means that the product demand curves over product life of similar products can be compared if the curves are standardized or normalized in terms of their lengths and heights. In other words, the normalized cumulative demand profiles of the similar products, once averaged, relatively accurately represent the

These do not support the Examiner's assertion because they point the reader an

entirely different direction than our application points. These passages insist on using normalized or standardized cumulative demand profiles. Our application uses actual sales data. These passages address a life-cycle demand for manufacturing. Our application uses daily retail operating data. These passages aggregate different products in the same product family. Our application searches for the particular product or location that is most directly comparable to the newly introduced. There are many more points of difference between Beyer and what we claim than there are hints, suggestions, teachings or indications of ordinary skill in the art sufficient to reproduce what we claim without using our claim as a roadmap.

We look at these passages as defining an inventive frontier of inferences and creativity that would not be expected of one of ordinary skill in the art at about the time this patent application was filed, as evidenced by the claims that were allowed. In Beyer, this Examiner acknowledged as new and non-obvious the combination of a profile extractor, a life-cycle demand predictor, a forecast creator and a future demand extrapolation module. We have take a larger and more counter-intuitive step, to use actual sales history data, with all its tendencies towards lumpiness, instead of using smoothed and aggregated data.

Because key elements of our claims are missing from the reference and our inventiveness exceeds what the contemporaneous inventors in Beyer and Singh showed in order to obtain those patents, claim 39 should be allowable over Beyer in view of Singh.

Claim 42

Claim 42 should be allowable over Beyer in view of Singh for at least the same reasons as claim 39, from which it depends.

Rejection of Claims 40 and 41 under 35 U.S.C. §103(a)

The Examiner has rejected claims 40 and 41 under 35 U.S.C. §103(a) as being unpatentable over Beyer et al. (US 6,798,249) in view of Singh et al. (US 7,080,026) and further in view of Ando (US 6,032,125).

Claim 40

Claim 40 includes the limitations:

wherein the actual sales interval includes a plurality of causal periods and evaluating takes place on a causal period by causal period basis

This claim should be allowable over Beyer in view of Singh for at least the same reasons as claim 40, from which it depends.

Claim 41

Claim 41, which now depends from claim 40, includes the limitations:

wherein the evaluating takes place on a daily or more frequent period basis

These limitations are not found in Beyer in view of Singh.

Ando is directed dozens of times to weekly forecasting. The singular mention in column 4 of the possibility of daily or monthly forecasting bears no relationship to evaluating actual sales history on a causal period by causal period basis.

Therefore claim 41 should be allowable over Beyer in view of Singh and Ando.

CONCLUSION

Applicants respectfully submit that the pending claims are now in condition for allowance and thereby solicit acceptance of the claims as now stated.

Applicants would welcome an interview, if the Examiner is so inclined. The undersigned can ordinarily be reached at his office at (650) 712-0340 from 8:30 a.m. to 5:30 p.m. PST, Monday through Friday, and can be reached at his cell phone at (415) 902-6112 most other times.

Fee Authorization. The Commissioner is hereby authorized to charge any additional fee(s) determined to be due in connection with this communication, or credit any overpayment, to our Deposit Account No. 50-0869 (BLFR 1002-1).

Respectfully submitted,

Dated: 26 June 2007

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